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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,691	02/10/2004	Tuomo Lehtonen	59244.00009	7362

32294 7590 08/28/2007  
SQUIRE, SANDERS & DEMPSEY L.L.P.  
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8000 TOWERS CRESCENT  
TYSONS CORNER, VA 22182

EXAMINER
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CHAPMAN JR, JOHN E

ART UNIT	PAPER NUMBER
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2856

MAIL DATE	DELIVERY MODE
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08/28/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

3/2

<b>Office Action Summary</b>	Application No. 10/774,691	Applicant(s) LEHTONEN, TUOMO	
	Examiner John E. Chapman	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 August 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,17,19-22,24 and 26-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,17,19-22,24 and 26-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 3, 17, 19-22, 24 and 26-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There does not appear to be adequate support in the disclosure, as originally filed, for the description of the movable electrode being arranged as a "torsion beam," as now recited in claim 1, line 6.
3. Claims 1, 3, 17, 19-22, 24 and 26-30 are rejected under 35 U.S.C. 103(a) as being obvious over Mahon (6,829,937) and in view of Andersson (5,723,790).

Mahon discloses a capacitive acceleration sensor comprising four movable electrodes 310, 320, 330 and 340 in Fig. 2, the movable electrodes being rigidly supported by torsion beam members 400 at an axis of rotation. The only difference between the claimed invention and the prior art consists in arranging the movable electrodes 310, 320, 330 and 340 such that the negative direction vectors intersect at essentially one point. Andersson teaches in Fig. 5 the equivalence of a type I measuring device, such as that in Fig. 2 of Mahon, and a type II measuring device in Fig. 2, wherein the negative direction vectors (i.e., the direction from the inertial masses through the support axis) intersect at essentially one point. It would have been

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obvious to one of ordinary skill in the art to arrange the movable electrodes 310, 320, 330 and 340 of Mahon in the type II configuration of Andersson in order to reduce sensitivity to angular velocity.

Regarding claim 3, the only difference between the claimed invention and the prior art consists in the shape of the electrodes. A mere change in the shape of a prior art device is generally recognized as a design consideration within the skill of the art. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Regarding claim 19, since the acceleration sensor measures acceleration along three axes (column 8, lines 35-37), it thereby measures acceleration along two axes.

Regarding claim 24, each inertia mass 310, 320, 330 and 340 comprises two pairs of electrodes, since electrodes are located on opposite sides of the masses of inertia, as shown in Fig. 22. Hence, there are eight pairs of electrodes.

Regarding claim 29, Andersson teaches measuring different ranges of acceleration. See column 6, lines 20-26.

Regarding claim 30, the sensor 330 in Fig. 2 of Mahon is redundant, as evident from Fig. 4A. Furthermore, it would have been obvious to provide redundant sensors in case one sensor should become inoperative.

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection

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is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 3, 17, 19-22, 24 and 26-30 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 28 of Mahon (6,829,937) in view of Andersson (5,723,790).

Mahon claims a capacitive acceleration sensor comprising four inertial masses oriented at 0 degree, 90 degree, 180 degree and 270 degree angles, the inertial masses being rigidly

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supported by torsion beam members. The only difference between the claimed inventions consists in arranging the inertial masses such that the negative direction vectors intersect at essentially one point. Andersson teaches arranging inertial masses at 0 degree, 90 degree, 180 degree and 270 degree angles in a type II measuring device in Fig. 5, wherein the negative direction vectors (i.e., the direction from the inertial masses through the support axis) intersect at essentially one point. It would have been obvious to one of ordinary skill in the art to arrange the claimed inertial masses of Mahon in the type II configuration of Andersson in order to reduce sensitivity to angular velocity.

Regarding claim 3, the only further difference between the claimed invention and the prior art consists in the shape of the electrodes. A mere change in the shape of a prior art device is generally recognized as a design consideration within the skill of the art. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Regarding claim 19, since the acceleration sensor measures acceleration along three axes, it thereby measures acceleration along two axes.

Regarding claim 20, note claim 23 of Mahon.

Regarding claim 24, each inertia mass comprises two pairs of electrodes, since electrodes are located on opposite sides of the masses of inertia. Hence, there are eight pairs of electrodes.

Regarding claim 27, note claim 23 of Mahon.

Regarding claim 29, Andersson teaches measuring different ranges of acceleration. See column 6, lines 20-26.

Regarding claim 30, some of the inertial masses are redundant, since only two inertial masses are required to provide multi-axis acceleration.

6. Applicant's arguments filed August 16, 2007 have been fully considered but they are not persuasive. Regarding the rejection under 35 U.S.C. 112, first paragraph, applicant asserts that the examiner in a telephone interview on February 1, 2007 suggested the terminology "torsion beam" and admitted that Figures 1, 2, 3, 4, 6, 7, 8, 9, 10, and 11, as originally filed, each fully support the recitation of the of the movable electrode being arranged as a torsion beam. However, the record fails to support either that the examiner suggested such terminology or that the examiner agreed to such a conclusion. What the examiner did agree is that applicant's device "appears to have a rotational arrangement similar to Fig. 1A of Mahon while Andersson appears to have a cantilever arrangement similar to Fig. 1B of Mahon" (underlining added). See the Examiner's Interview Summary mailed on February 5, 2007. That Mahon describes the arrangement of Fig. 1 as comprising "torsion beam members 400" does not entitle the applicant to so describe his invention. Applicant describes the movable electrode 5 in Fig. 3 as being "rigidly supported at the axis of rotation 7 such, that the movable electrode 5 is free to rotate in a rotational motion about the axis of rotation 7" in paragraph 34 of the specification, as originally filed. While it was agreed that such terminology distinguishes over the arrangement in Fig. 1B of Mahon but not that in Fig. 1A of Mahon, it was not agreed that applicant's disclosure, as originally filed, fully supports the use of the terminology "torsion beam." Applicant admits that the term "torsion beam" does not appear in the specification. To the extent applicant believes that the use of the terminology "torsion beam" is fully supported by the disclosure as originally filed, applicant should provide evidence that one of ordinary skill in the art would have

understood from applicant's disclosure that the movable electrode 5 rotates about the axis of rotation 7 formed by torsion beam members.

Applicant argues that Mahon I (6,862,795) and Mahon II (6,829,937) were each issued after the filing date of the present application and therefore can qualify as prior art only under 35 U.S.C. 102(e). However, both Mahon I and Mahon II were published under 35 U.S.C. 122(b) prior to the filing date of the present application and therefore qualify as prior art under 35 U.S.C. 102(a) absent a showing of prior invention. In view of the submission of a certified translation of the foreign priority papers in accordance with 37 CFR 1.55, it is now agreed that both Mahon I and Mahon II qualify as prior art only under 35 U.S.C. 102(e).

Applicant asserts that both Mahon I and II were under an obligation of assignment to the same entity as the present application. However, applicant fails to provide an adequate showing that Mahon II (6,829,937) was under an obligation of assignment to the same entity as the present application at the time of applicant's invention. Applicant asserts that the evidence shows that both Mahon I and Mahon II were assigned to VTI Holding Oy in 2002, while an assignment to VTI Technologies Oy, a subsidiary of VTI Holding Oy, was filed in the present application on July 6, 2004. However, such evidence shows that both Mahon I and II were assigned to the same entity as the present application as of July 6, 2004. They do not show the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person, as required by 35 U.S.C. 103(c)(1). In order to establish common ownership at the time the invention was made, a statement of present common ownership is not sufficient. *In re Onda*, 229 USPQ 235 (Comm'r Pat. 1985). It is sufficient for the applicant or an attorney or agent of record



to make a clear and conspicuous statement to the effect that the application and the reference were, at the time the invention was made, owned by, or subject to an obligation of assignment to, the same person. See MPEP 706.02(1)(2), II, EVIDENCE REQUIRED TO ESTABLISH COMMON OWNERSHIP. While an attorney of record has provided a statement on page 16 of the Remarks filed on August 25, 2006 stating that the invention was owned by, or subject to an obligation of assignment to, the same entity as Mahon I (6,862,795) at the time this invention was made, no such statement has been made in a clear and conspicuous manner regarding Mahon II (6,829,937). Consequently, Mahon II does not meet the second requirement for prohibited usage under 35 U.S.C. 103(c). The applicant or an attorney or agent of record should make a clear and conspicuous statement to the effect that the application and the Mahon II reference were, at the time the invention was made, owned by, or subject to an obligation of assignment to, the same person.


Upon further consideration it is noted that Mahon II (6,829,937) claims the subject matter relied upon in the above rejection under 35 U.S.C. 103(a). Accordingly, the claims in the present application are being rejected on the ground of nonstatutory obviousness-type double patenting. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome this rejection based on nonstatutory double patenting.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John E. Chapman whose telephone number is (571) 272-2191. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron

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Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
John E Chapman  
Primary Examiner  
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